

July 9, 2004

MEMORANDUM FOR: AIS Observers

FROM: David C. Potter
Branch Chief, FSB

SUBJECT: Turtle Chain Configuration on Scallop Dredges

Research has been conducted between scallop fisherman, scallop industry members, and academic institutions to reduce the incidental takes of turtles in scallop dredge gear. As a result, the scallop industry has been voluntarily asked to rig turtle chains on their dredges between May 1st and October 15th if they are fishing south of Long Island and north of Cape Hatteras. This memo will provide you with the information needed to distinguish between a turtle chain configuration and a normal rock chain configuration so that the Scallop Dredge Gear Characteristics Log can be completed correctly.

There are three possible chain configurations of a scallop dredge. The first chain configuration has no chains. The sweep is attached to the dredge frame leaving a large opening spanning from the edges of the dredge frame continuing along the length of the sweep. On your Scallop Dredge Gear Characteristics Log under CHAINS, this configuration would be recorded as:

CHAINS

USED?	NO	YES	NUMBER
ROCK	0__x_	1__	___0__
TICKLER	0__x_	1__	___0__

The second chain configuration has rock and tickler chains and is commonly used on scallop trips. The number of rock and tickler chains depend on the area fished and the bottom type and characterization. In this configuration, the chains are normally

a 5/8-inch link chain in which both the rock (up-and-downs) and ticklers (horizontal in a loose "U" shape) are both hung from the dredge frame. On the Scallop Dredge Gear Characteristics Log under CHAINS, this configuration would be recorded as:

CHAINS

USED?	NO	YES	NUMBER	
ROCK	0 ____	1 _x_	_____	The number of chains varies depending on how it is configured.
TICKLER	0 ____	1 _x_	_____	The number of chains varies depending on how it is configured.

The third chain configuration has turtle chains to exclude turtles from entering the dredge chain bag. In this configuration, the up-and-down and tickler chains are a 3/8-inch Grade 70 or Trawlex link chain that is lighter than the normal rock and tickler chain configuration. The turtle chain configuration has up-and-down chains hung from the dredge frame and tickler chains hung from the sweep. By hanging the ticklers from the sweep, the chain then takes on a grid like appearance providing a smaller square opening averaging between 14 and 16 inches. Vessels using 14' to 15' dredges during the research study used 11 up-and-downs and 6 ticklers. If the vessel that you are observing is using turtle chains, you would follow the following protocol to record the necessary information:

First, ask the captain three questions to confirm that the vessel is using the turtle chains.

1. Are the dredges rigged with no chains, rock and ticklers, or turtle chains?
2. How many up and downs and how many ticklers are on the dredges?
3. What size and type of chain are you using on the dredges?

If the captain is using the lighter 3/8-inch turtle chain, record **102** in the PROJECT NAME field, which is located in the top right corner of the Vessel and Trip Information Log, labeled IN-OFFICE.

If you are deployed on a Closed Area Scallop Trip in which the vessel is using turtle chains, you would report the PROGRAM CODE that corresponds to the Closed Area the vessel is fishing in (Hudson Canyon would report **204**). The fact that you are deployed on a Closed Area trip takes precedence over the code for the

turtle chains. On the Scallop Dredge Gear Characteristics Log under CHAINS, the turtle chain configuration would be recorded as follows:

CHAINS

USED?	NO	YES	NUMBER
ROCK	0 ____	2 +_x_ ____	11 ____ (If the vessel is using the recommended number)
TICKLER	0 ____	2 +_x_ ____	6 ____ (If the vessel is using the recommended number)

Cross out the number "1" under YES for both the rock and tickler chains and write in the number "2". Check off YES. Record the number of rock and tickler chains. In the COMMENTS section record "Chain Mat Used". This should be done for both the PORT and STARBOARD dredge. Please make sure that you are also including any additional costs in TRIP COSTS (Supplies) on the Vessel and Trip Information Log as well as REPLACEMENT / ADD COSTS (Fish Gear) on the Vessel and Trip Information Log - Sixth Month Questions Log.

If the vessel captain decides to take off the turtle chains at any time during the duration of your trip, you would fill out a new Scallop Dredge Gear Characteristics Log with a new gear number and the corresponding information needed.

When reporting OBSCON, it will be important for the observers (and/or area coordinators) to use PROGRAM CODE **102**. If you are deployed on a Closed Area Scallop Trip in which the vessel is using turtle chains, you would report the PROGRAM CODE that corresponds to the Closed Area the vessel is fishing in (Hudson Canyon would report **204**. The fact that you are deployed on a Closed Area trip takes precedence over the code for the turtle chains.

Enclosed you will find a placard that was sent to the fishermen which contains additional information regarding the turtle chains. If you have any questions, please contact Erin Kupcha at (508) 495-2031.

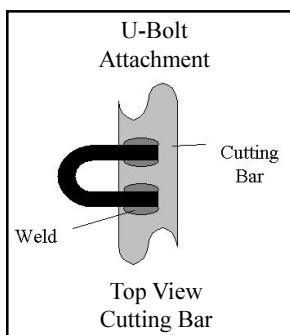
Attachments: Rigging of Turtle Chains Placard
Chain Configuration Comparison Photo

RIGGING OF TURTLE CHAINS

In 2003, as part of a cooperative research program 12 fishing trips were conducted by the scallop industry in which one dredge was modified with turtle chains. In 2,500 observed tows, seven turtles were caught, but none on the side with turtle chains.

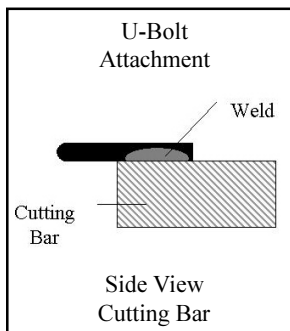
The scallop industry needs to take proactive measures to avoid sea turtle takes in order to minimize restrictions on the fishery. The preliminary success of the turtle chains strongly suggests that scallop vessels fishing between May and October south of Long Island rig turtle chains on their dredges.

The photograph on the reverse side pictures a turtle chain. As shown, it is simply a modified rock chain arrangement constructed of a lighter, but stronger, chain.



Chains: Use 3/8-inch Grade 70 or Trawlex chain, long or short link. This hardened steel chain reduces wear and stretching. It is significantly lighter but has the same breaking strength of a standard 5/8-inch sweep chain.

Hanging: Up and downs are hung from the back of the cutting bar. (See drawings.) Starting at the center and working toward each shoe, "U" bolts are welded 14 inches apart. We recommend for 14-foot to 15-foot dredges, using 11 up and downs, and on 11-foot to 13-foot dredges, using 9 up and downs.



Generally, 6 ticklers are hung running along the sweep, with the first starting at the rear of the shoes. Spaced on a normal sweep arrangement, this should give about a 12 to 13-inch square pattern.

Crossing points between the up and downs can be linked or shackled.

CAUTION: Do not hang the up and downs and ticklers tight onto the sweep; if they are too loose, however, the up and downs will get under the sweep.

We do not have a recommended action that the ticklers be placed outside or inside the up and downs. Some vessels had better luck maintaining scallop catches with the ticklers on the outside.

For additional information, call Ron Smolowitz with the Fisheries Survival Fund at (508) 564-5516, or Bill DuPaul at the Virginia Institute of Marine Science at (804) 684-7163.



New Bedford-style scallop dredge rigged with turtle chain.



Chain mat for excluding turtles



Typical rock chain configuration